

Aerodynamically Actuated Radical Shape Change

Completed Technology Project (2015 - 2016)



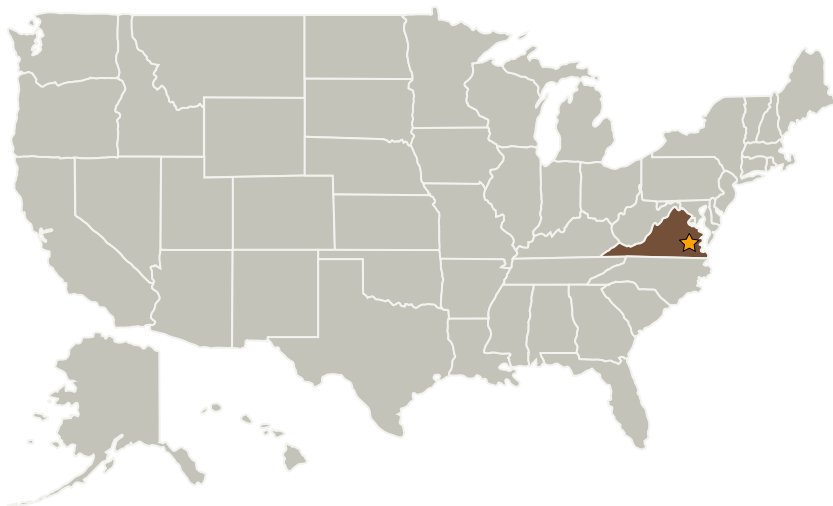
Project Introduction

Aerodynamic-actuation enables radical shape change at reduced weight. Additionally, this concept uses the shape-change actuation as a primary flight control thereby simplifying the design and saving further weight. These weight savings enable radical change with viable weight penalties. Our efforts will first evaluate the shape-change concept on a systems level to gain quantitative predictions of overall structural weight and aircraft performance for a given payload. Comparison calculations will be made for a modern conventional aircraft.

Anticipated Benefits

The project will enable Point to Point Aviation.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Langley Research Center (LaRC)	Lead Organization	NASA Center	Hampton, Virginia

Primary U.S. Work Locations

Virginia



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Center Innovation Fund: LaRC CIF

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Project Website:

<https://www.nasa.gov/directorates/spacetech/home/index.html>

Project Management

Program Director:

Michael R Lapointe

Program Manager:

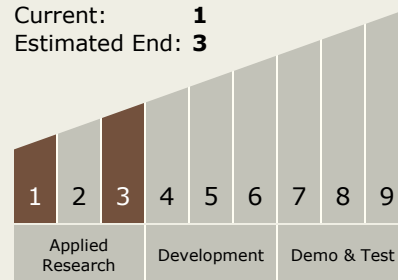
Julie A Williams-byrd

Principal Investigator:

Thomas G Ivanco

Technology Maturity (TRL)

Start: **1**
Current: **1**
Estimated End: **3**



Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.6 Advanced Atmospheric Flight Vehicles